

Claims



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7 8 1. A variable speed drive system for driving accessories comprising:

arotational member;

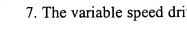
a controllable pulley in rotational communication with said rotational member, said controllable pulley including a first movable flange and a corresponding adjustable pitch radius;

an auto-tensioning pulley driven by said controllable pulley via a first belt, said autotensioning pulley for maintaining tension in said first belt and said auto tensioning pulley having an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio;

an actuating system for moving said first movable flange; and

one or more accessories which are driven by said auto-tensioning pulley via a second belt.

- 2. The variable speed drive system of claim 1 wherein the actuating system comprises a linear actuating member which generates a force in-line and parallel with the direction of movement of the first movable flange.
- 1 \int 3. The variable speed drive system of claim 1 wherein said actuating_system is a hydraulic 2 \int system comprising a hydraulic pump, a control valve, a source of hydraulic fluid, and a hydraulically operated piston connected to said movable flange.)
- 1 4. The variable speed drive system of claim 3 further comprising a <u>control logic module</u> for 2 receiving data from one or more sensing devices and for signaling the actuating system.
- 1 5. The variable speed drive system of claim 3 wherein said actuating system further comprises a
- 2 hydraulic reservoir and wherein the hydraulic reservoir and hydraulic pump are located remotely
- 3 from said controllable pulley.
- 1 6. The variable speed drive system of claim 1 further comprising a control logic module for receiving data from one or more sensing devices and for signaling the actuating system.



- 7. The variable speed drive system of claim 1 wherein said controllable pulley further comprises 1
- a second movable flange.
- 8. The variable speed drive system of claim 1 wherein said auto-tensioning pulley includes an 1
- auto-tensioning device which is a spring. 2
- 9. A vehicle comprising the variable speed drive system of claim 1. 1
- 10. The variable speed drive system of claim 1 further including a vehicle wherein said variable 1
- 2 speed drive system is mounted in said vehicle.
- 11. The variable speed drive system of claim 1 further including a counterweight system for 1
- partially countering the effect of rotating hydraulic fluid comprising a cable bracket, a cable, and 2
- a weight. 3

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- 12. The variable speed drive system of claim 1 further including a spring venting system for
 - partially countering the effect of rotating hydraulic fluid comprising a spring, a bracket, and a
- spring housing. U
 - 13. The variable speed drive system of claim 1 wherein said rotational member is an engine.
 - 14. A variable speed drive system for driving engine accessories comprising:
 - an engine;
 - a first controllable pulley in rotational communication with said engine, said first controllable pulley including a first movable flange and a corresponding adjustable pitch radius;
 - 5 a second controllable pulley driven by said first controllable pulley via a first belt, said second controllable pulley having a second movable flange, and an operating speed which is 6 infinitely variable between a minimum pitch ratio and a maximum pitch ratio; 7
 - an actuating system for moving said first movable flange; and 8
 - a belt driving sheave attached to said second controllable pulley which drives one or 9 more accessories via a second belt. 10

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15. The variable speed drive system of claim 14 wherein at least one of said first and second controllable pulleys further comprises an additional movable flange.

16. The variable speed drive system of claim 14 further comprising a control logic module for receiving data from one or more sensing devices and for signaling the actuating system.



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17. A variable speed drive system for driving accessories comprising:

a rotational member;

an auto-tensioning pulley in rotational communication with said rotational member, said auto-tensioning pulley for maintaining tension in a first belt;

a controllable pulley driver by said auto-tensioning pulley via said first belt, said controllable pulley including a first movable flange and a corresponding adjustable pitch radius, and said controllable pulley having an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio;

an actuating system for moving said first movable flange; and

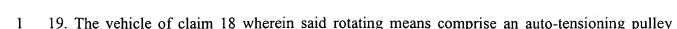
one or more accessories which are driven by said controllable pulley via a second belt.

18. A vehicle comprising:

an engine;

- a first controllable pulley in rotational communication with said engine, said first controllable pulley driving a first belt and including a first movable flange and a corresponding adjustable pitch radius;
 - an actuating system for moving said first movable flange;
 - one or more accessories which are driven by a second belt; and

rotating means, said rotating means rotatably connected to said first and second belts, said rotating means having an operating speed which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio.



- 2 having a spring-biased movable flange, said auto-tensioning pulley having an operating speed
- 3 which is infinitely variable between a minimum pitch ratio and a maximum pitch ratio.
- 1 20. The vehicle of claim 18 wherein said rotating means comprise a second controllable pulley
- 2 having an operating speed which is infinitely variable between a minimum pitch ratio and a
- 3 maximum pitch ratio.
- 1 21. The vehicle of claim 18 wherein the actuating system comprises a linear actuating member
- 2 which generates a force in-line and parallel with the direction of movement of the first movable
- 3 flange.
- 22. The vehicle of claim 18 further comprising a control logic module for receiving data from one or more sensing devices and for signaling the actuating system.
 - 23. The vehicle of claim 22 wherein said control logic module is an on-board electronic engine control module of the vehicle.
- 24. The vehicle of claim 18 wherein said vehicle includes a power steering pump and a power steering fluid reservoir, wherein said actuating system comprises said power steering pump, and
 - said power steering fluid reservoir.
- 1 25. The vehicle of claim 18 wherein said actuating system comprises an electromechanical linear
- 2 actuation device.
- 1 26. The vehicle of claim 18 wherein said actuating system comprises a thermally responsive
- 2 material.
- 1 27. The vehicle of claim 18 wherein said actuating system comprises one or more magnets.
- 1 28. The vehicle of claim 18 further comprising a non-rotating chamber system.
- 1 29. A vehicle comprising:
- 2 an engine;

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one or more engine-driven accessories;

means for driving said accessories wherein said means are independent of engine operating speed and infinitely adjustable between a first minimum underdrive condition and a

- second maximum overdrive condition.
 - 30. The vehicle of claim 29 wherein said means are remotely controllable.

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